

Name: \_\_\_\_\_

## Chapter 6 Assessment

All work must be shown for full credit.

- 1) Verify whether or not the given coordinate is a solution to the system.

a) (4,8)

$$\begin{cases} y = 2x \\ y = -4x + 12 \end{cases}$$

- 2) Solve the following system of equations by elimination. Make sure to check your answer

$$7x + 2y = 18$$

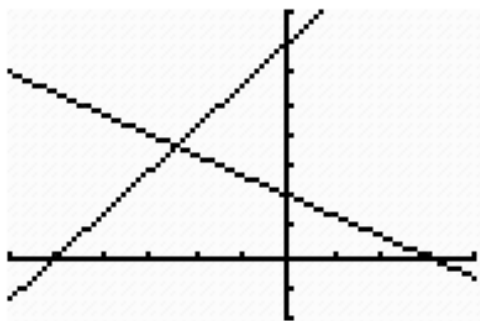
$$3x + 2y = 2$$

- 3) Solve the following system of equations by using the substitution method. Make sure to check your answer.

$$y = -4x + 9$$

$$y = 2x + 3$$

- 4) This is a picture of a calculator screen. Estimate the point of intersection and verify your answer algebraically by finding equations for each line and solving the system of equations. The scale for the x and y axis is 1.



- 5) The Creekside Theater is putting on a play. The Hanson family bought 5 adult tickets and 2 child tickets for \$129.00. The Rivera family bought 2 adult tickets and 6 child tickets for \$107.50.
- a) Write two equations that would represent this situation, and define meaningful variables.
- b) Solve the system to find out how much each type of ticket costs.
- 6) Two friends start rival Internet companies in their homes. One company, Gizmo.com, has a \$12,000 start-up cost and receives \$2.50 for each hit (each visit to the web site) from advertising. Write an equation to describe the profits for Gizmo.com. Be sure to define your variables.
- 7) The profit equation for the rival company, Widget.com, is  $y = 1.6x - 5000$ . Describe what the  $-5000$  and  $1.6$  mean in terms of this problem.
- 8) When will both companies have the same amount of Profit? What is that Profit? Solve algebraically and then check graphically. Include both your work and your graph

9) After seeing her friends profit from their web sites, Sally wants to start a third company, Gadget.com, with the start up cost of Widget.com and the advertising rate of Gizmo.com. What is Sally's profit equation? Define your variables.

10) When will Sally have the same profits as Gizmo.com and Widget.com? Show your work.